Plant Science, 64 (1989) 267 – 269
Elsevier Scientific Publishers Ireland Ltd.

SUBJECT INDEX

Volume 64 (1989)

Acid phosphatase, buckwheat cell culture, compartmentation, glyphosate, shikimate 3-phosphate, 259
Agrobacterium, essential amino acids, potato, synthetic gene, 99
Agrobacterium tumefaciens, *Nicotiana edwardsonii*, *Nicotiana glutinosa*, *Nicotiana clevelandii*, caulimoviruses, tissue culture, 67
Alternative pathway, barley, mesophyll protoplasts, powdery mildew (*Erysiphe graminis hordei*), dark respiration, 221
Amino acid, cyanobacteria, metabolism, 135
Ammonium ion, cultured plant cells, freezing-injury, cryopreservation, *Oryza sativa*, post-thaw culture medium, 231
α-Amylase, rice, gibberellic acid, 15
Amylose-free potato, granule-bound starch synthase genomic clones, *Solanum tuberosum*, GBSS RNA, 185
Apple (*Malus domestica* Brokh.), cytokinin, embryo germination, ethephon, seed stratification, gibberellin, 39
Arginase, *Pinus sylvestris*, glutamate synthase, nitrate reductase, nitrogen metabolism, 153
Ascorbate oxidase, *Curcurbita pepo* medullosa, imunohistochemistry, 61
Ascorbate oxidase, phytochrome, mustard, ELISA, enhanced chemiluminescence, 79

Barley, mesophyll protoplasts, powdery mildew (*Erysiphe graminis hordei*), dark respiration, alternative pathway, 221
Brassical juncea, glucosinolate biosynthesis, enzyme compartmentation, 25
Brassica campestris ssp. *chinensis*, Chinese cabbage, ethylene inhibitors, plant regeneration, tissue culture, 243
Bryum capillare, cytokinins, protonemal growth, gemma formation, bud formation, 237
Buckwheat cell culture, acid phosphatase, compartmentation, glyphosate, shikimate 3-phosphate 259
Bud formation, *Bryum capillare*, cytokinins, protonemal growth, gemma formation, 237

CaMV 35S promoter, in vitro transcription, plant nuclear extract, inhibitor, whole-cell extract, 91
α-Carotene, β-carotene, carotenoids, pigment-protein complexes, 179
β-Carotene, α-carotene, carotenoids, pigment-protein complexes, 179
Carotenoids, α-carotene, β-carotene, pigment-protein complexes, 179
Carya illinoensis, pecan, somatic embryogenesis, Juglandaceae, 193
Caulimoviruses, *Nicotiana edwardsonii*, *Nicotiana glutinosa*, *Nicotiana clevelandii*, *Agrobacterium tumefaciens*, tissue culture, 67
Cell suspension culture, *Medicago sativa*, *Medicago varia*, flow cytometry, colchicine, polyploidization, genetic instability, somatic embryogenesis, 213
Chinese cabbage, *Brassica campestris* ssp. *chinensis*, ethylene inhibitors, plant regeneration, tissue culture, 243
Chloroplast, galactolipids, *Vicia faba*, *Uromyces viciae-fabae*, 55
Chloroplast, photosynthesis, thylakoids, photosystem I, electron transport, membranes, 1
Chloroplast, water stress, osmotic stress, photosynthesis, 45
Colchicine, *Medicago sativa*, *Medicago varia*, flow cytometry, polyploidization, genetic instability, somatic embryogenesis, cell suspension culture, 213
Colonies, *Helianthus annuus*, cultures, protoplasts, 125
Compartmentation, acid phosphatase, buckwheat cell culture, glyphosate, shikimate 3-phosphate 259
Cryopreservation, ammonium ion, cultured plant cells, freezing-injury, *Oryza sativa*, post-thaw culture medium, 231
Cultured plant cells, ammonium ion, freezing-injury, cryopreservation, *Oryza sativa*, post-thaw culture medium, 231
Cultures, *Helianthus annuus*, colonies, protoplasts, 125
Curcurbita pepo medullosa, ascorbate oxidase, imunohistochemistry, 61
Cyanobacteria, metabolism, amino acid, 135
Cytokinin, apple (*Malus domestica* Brokh.), embryo germination, ethephon, seed stratification, gibberellin, 39
Cytokinin, esterases, malate dehydrogenases, moss mutants, *Physcomitrella patens*, peroxidases, 203
Cytokinins, *Bryum capillare*, protonemal growth, gemma formation, bud formation, 237
Cytokinin metabolites, nucleotides, lupin (*Lupinus angustifolius*), 161

Dark respiration, barley, mesophyll protoplasts, powdery mildew (*Erysiphe graminis hordei*), alternative pathway, 221

Daucus carota, tissue culture, somatic embryogenesis, petroselinic acid, triacylglycerols, fatty acid composition, 167

Electron transport, photosynthesis, chloroplast, thylakoids, photosystem I, membranes, 1
ELISA, ascorbate oxidase, phytochrome, mustard, enhanced chemiluminescence, 79
Embryogenesis, embryo culture, medium, nutrients, wheat, white callus, 251
Embryo culture, embryogenesis, medium, nutrients, wheat, white callus, 251
Embryo germination, apple (*Malus domestica* Brokh.), cytokinin, ethephon, seed stratification, gibberellin, 39
Enhanced chemiluminescence, ascorbate oxidase, phytochrome, mustard, ELISA, 79
Enzyme compartmentation, *Brassica juncea*, glucosinolate biosynthesis, 25
Essential amino acids, *Agrobacterium*, potato, synthetic gene, 99
Esterases, cytokinin, malate dehydrogenases, moss mutants, *Physcomitrella patens*, peroxidases, 203
Ethephon, apple (*Malus domestica* Brokh.), cytokinin, embryo germination, seed stratification, gibberellin, 39
Ethylene inhibitors, *Brassica campestris* ssp. *chinensis*, Chinese cabbage, plant regeneration, tissue culture, 243

Fatty acid composition, *Daucus carota*, tissue culture, somatic embryogenesis, petroselinic acid, triacylglycerols, 167
Flow cytometry, *Medicago sativa*, *Medicago varia*, colchicine, polyploidization, genetic instability, somatic embryogenesis, cell suspension culture, 213
Freezing-injury, ammonium ion, cultured plant cells, cryopreservation, *Oryza sativa*, post-thaw culture medium, 231

Galactolipids, *Vicia faba*, chloroplast, *Uromyces viciae-fabae*, 55
GBSS RNA, granule-bound starch synthase genomic clones, *Solanum tuberosum*, amylose-free potato, 185
Gemma formation, *Bryum capillare*, cytokinins, protonemal growth, bud formation, 237
Genetic instability, *Medicago sativa*, *Medicago varia*, flow cytometry, colchicine, polyploidization, somatic embryogenesis, cell suspension culture, 213
Gibberellic acid, rice, α-amylase, 15
Gibberellin, apple (*Malus domestica* Brokh.), cytokinin, embryo germination, ethephon, seed stratification, 39
Glucosinolate biosynthesis, *Brassica juncea*, enzyme compartmentation, 25
Glutamate synthase, *Pinus sylvestris*, arginase, nitrate reductase, nitrogen metabolism, 153
Glyphosate, acid phosphatase, buckwheat cell culture, compartmentation, shikimate 3-phosphate 259
Granule-bound starch synthase genomic clones, *Solanum tuberosum*, GBSS RNA, amylose-free potato, 185

Helianthus annuus, colonies, cultures, protoplasts, 125

Immunohistochemistry, *Curcurbita pepo* medullosa, ascorbate oxidase, 61
Inhibitor, in vitro transcription, plant nuclear extract, whole-cell extract, CaMV 35S promoter, 91
In vitro transcription, plant nuclear extract, inhibitor, whole-cell extract, CaMV 35S promoter, 91
Isoelectric focusing, *Solanum tuberosum* L., potato-derived plants, somaclonal variation, tuber protein patterns, transmission of phenotypic variation, 113

Juglandaceae, *Carya illinoensis*, pecan, somatic embryogenesis, 193

Kinetic processivity (wheat germ), RNA polymerase II, transcription factors, 31

Lupin (*Lupinus angustifolius*), cytokinin metabolites, nucleotides, 161

Malate dehydrogenases, cytokinin, esterases, moss mutants, *Physcomitrella patens*, peroxidases, 203
Medicago sativa, *Medicago varia*, flow cytometry, colchicine, polyploidization, genetic instability, somatic embryogenesis, cell suspension culture, 213
Medicago varia, *Medicago sativa*, flow cytometry, colchicine, polyploidization, genetic instability, somatic embryogenesis, cell suspension culture, 213
Medium, embryo culture, embryogenesis, nutrients, wheat, white callus, 251
Membranes, photosynthesis, chloroplast, thylakoids, photosystem 1, electron transport, 1
Mesophyll protoplasts, barley, powdery mildew (*Erysiphe graminis hordei*), dark respiration, alternative pathway, 221
Metabolism, cyanobacteria, amino acid, 135
Moss mutants, cytokinin, esterases, malate dehydrogenases, *Physcomitrella patens*, peroxidases, 203
Mustard, ascorbate oxidase, phytochrome, ELISA, enhanced chemiluminescence, 79

Nicotiana clevelandii, *Nicotiana edwardsonii*, *Nicotiana glutinosa*, *Agrobacterium tumefaciens*, caulimoviruses, tissue culture, 67
Nicotiana edwardsonii, *Nicotiana glutinosa*, *Nicotiana clevelandii*, *Agrobacterium tumefaciens*, caulimoviruses, tissue culture, 67
Nicotiana glutinosa, *Nicotiana edwardsonii*, *Nicotiana clevelandii*, *Agrobacterium tumefaciens*, caulimoviruses, tissue culture, 67
Nitrate reductase, *Pinus sylvestris*, arginase, glutamate synthase, nitrogen metabolism, 153
Nitrogen metabolism, *Pinus sylvestris*, arginase, glutamate synthase, nitrate reductase, 153
Nucleotides, cytokinin metabolites, lupin (*Lupinus angustifolius*), 161

Nutrients, embryo culture, embryogenesis, medium, wheat, white callus, 251

Oryza sativa, ammonium ion, cultured plant cells, freezing-injury, cryopreservation, post-thaw culture medium, 231
Osmotic stress, water stress, chloroplast, photosynthesis, 45

Pecan, *Carya illinoensis*, somatic embryogenesis, Juglandaceae, 193
Peroxidases, cytokinin, esterases, malate dehydrogenases, moss mutants, *Physcomitrella patens*, 203
Petroselinic acid, *Daucus carota*, tissue culture, somatic embryogenesis, triacylglycerols, fatty acid composition, 167
Photosynthesis, chloroplast, thylakoids, photosystem I, electron transport, membranes, 1
Photosynthesis, water stress, osmotic stress, chloroplast, 45
Photosystem I, photosynthesis, chloroplast, thylakoids, electron transport, membranes, 1
Physcomitrella patens, cytokinin, esterases, malate dehydrogenases, moss mutants, peroxidases, 203
Phytochrome, ascorbate oxidase, mustard, ELISA, enhanced chemiluminescence, 79
Pigment-protein complexes, α-carotene, β-carotene, carotenoids, 179
Pinus sylvestris, arginase, glutamate synthase, nitrate reductase, nitrogen metabolism, 153
Plant nuclear extract, in vitro transcription, inhibitor, whole-cell extract, CaMV 35S promoter, 91
Plant regeneration, *Brassica campestris* ssp. *chinensis*, Chinese cabbage, ethylene inhibitors, tissue culture, 243
Polyploidization, *Medicago sativa*, *Medicago varia*, flow cytometry, colchicine, genetic instability, somatic embryogenesis, cell suspension culture, 213
Post-thaw culture medium, ammonium ion, cultured plant cells, freezing-injury, cryopreservation, *Oryza sativa*, 231
Potato, *Agrobacterium*, essential amino acids, synthetic gene, 99
Potato-derived plants, *Solanum tuberosum* L., somaclonal variation, tuber protein patterns, isoelectric focusing, transmission of phenotypic variation, 113
Powdery mildew (*Erysiphe graminis hordei*), barley, mesophyll protoplasts, dark respiration, alternative pathway, 221
Protonemal growth, *Bryum capillare*, cytokinins, gemma formation, bud formation, 237
Protoplasts, *Helianthus annuus*, colonies, cultures, 125

Rice, α-amylase, gibberellic acid, 15
RNA polymerase II, transcription factors, kinetic processivity (wheat germ), 31

Seed stratification, apple (*Malus domestica* Brokh.), cytokinin, embryo germination, ethephon, gibberellin, 39
Shikimate 3-phosphate, acid phosphatase, buckwheat cell culture, compartmentation, glyphosate, 259
Solanum tuberosum, granule-bound starch synthase genomic clones, GBSS RNA, amylose-free potato, 185
Solanum tuberosum L., potato-derived plants, somaclonal variation, tuber protein patterns, isoelectric focusing, transmission of phenotypic variation, 113
Somaclonal variation, *Solanum tuberosum* L., potato-derived plants, tuber protein patterns, isoelectric focusing, transmission of phenotypic variation, 113
Somatic embryogenesis, *Carya illinoensis*, pecan, Juglandaceae, 193
Somatic embryogenesis, *Daucus carota*, tissue culture, petroselinic acid, triacylglycerols, fatty acid composition, 167
Somatic embryogenesis, *Medicago sativa*, *Medicago varia*, flow cytometry, colchicine, polyploidization, genetic instability, cell suspension culture, 213
Synthetic gene, *Agrobacterium*, essential amino acids, potato, 99

Thylakoids, photosynthesis, chloroplast, photosystem I, electron transport, membranes, 1
Tissue culture, *Brassica campestris* ssp. *chinensis*, Chinese cabbage, ethylene inhibitors, plant regeneration, 243
Tissue culture, *Daucus carota*, somatic embryogenesis, petroselinic acid, triacylglycerols, fatty acid composition, 167
Tissue culture, *Nicotiana edwardsonii*, *Nicotiana glutinosa*, *Nicotiana clevelandii*, *Agrobacterium tumefaciens*, caulimoviruses, 67
Transcription factors, RNA polymerase II, kinetic processivity (wheat germ), 31
Transmission of phenotypic variation, *Solanum tuberosum* L., potato-derived plants, somaclonal variation, tuber protein patterns, isoelectric focusing, 113
Triacylglycerols, *Daucus carota*, tissue culture, somatic embryogenesis, petroselinic acid, fatty acid composition, 167
Tuber protein patterns, *Solanum tuberosum* L., potato-derived plants, somaclonal variation, isoelectric focusing, transmission of phenotypic variation, 113

Uromyces viciae-fabae, galactolipids, *Vicia faba*, chloroplast, 55

Vicia faba, galactolipids, chloroplast, *Uromyces viciae-fabae*, 55

Water stress, osmotic stress, chloroplast, photosynthesis, 45
Wheat, embryo culture, embryogenesis, medium, nutrients, white callus, 251
White callus, embryo culture, embryogenesis, medium, nutrients, wheat, 251
Whole-cell extract, in vitro transcription, plant nuclear extract, inhibitor, CaMV 35S promoter, 91

Plant Science, 64 (1989) 271–272
Elsevier Scientific Publishers Ireland Ltd.

AUTHOR INDEX

Volume 64 (1989)

Abel, W.O. 203
Ackerman, S. 31
Alibert, G. 125
Amrhein, N. 259
Appelqvist, L-A. 167
Ault, J.R. 193
Avigliano, L. 61
Ayres, P.G. 221

Berkowitz, G.A. 45
Binarová, P. 213
Bredemeijer, G.M.M. 113
Britton, G. 179
Buonaurio, R. 55
Burg, H.C.J. 113
Burrus, M. 125

Ceru, M.P. 61
Chanabe, C. 125
Chandra Dutta, P. 167
Chi, G-L. 243
Chichiricco, G. 61
Chopra, R.N. 237
Covey S.N. 91

Daussant, J. 15
de Mercoyrol, L. 31
De Rossi, E. 135
Della Torre, G. 55
Delseny, M. 15
Dijkhuis, P. 113
Dodds, J.H. 99
Dolezel, J. 213
D'Alessandro, A. 61

Espinoza, N.O. 99

Feenstra, W.J. 185

Gierlich, J. 203
Goldberg, K-B. 67
Grootwassink, J.W.D. 25

He, D.G. 251
Henfrey, R.D. 91
Hergersberg, M. 185
Hetherington, A.M. 221
Holländer-Czytko, H. 259
Houwing, A. 113

Jacobsen, E. 185
Jain, J.C. 25
Jaynes, J.M. 99
Job, C. 31
Job, D. 31

Kerhardy, F. 15
Kiernan, J.M. 67
Kuriyama, A. 231
Kuusipuro, P. 153

Lähdesmäki, P. 153
Leaper, L. 79
Letham, D.S. 161

Margulies, M.M. 1
Marienfeld, J.R. 203
McAinsh, M.R. 221
Merkle, S.A. 193
Michayluk, M.R. 25
Milano, A. 135
Mitsuda, H. 231
Montembault, A. 15

Nagpala, P.G. 99
Newbury, H.J. 79

Oratore, A. 61

Panabieres, F. 15
Passeri, S. 55
Pier, P.A. 45
Pietilä, M. 153
Pietiläinen, P. 153
Proudfoot, L.M.F. 91
Pua, E-C. 243

Reski, R. 203
Riccardi, G. 135
Roest, S. 113

Sarla, 237
Schnorr, K.L. 99
Schoelz, J.E. 67
Scott, K.J. 251
Shepherd, R.J. 67
Sinska, I. 39
Slater, R.J. 91
Sree Ramulu, K. 113

Ueno, S. 231
Underhill, E.W. 25

van der Leij, F.R. 185
Van Hoogen, J.J. 113
Visser, R.G.F. 185
Vögeli-Lange, R. 259

Watanabe, K. 231
Wetzstein, H.Y. 193
White, F.F. 99
Witholt, B. 185

Yang, M.S. 99
Yang, Y.M. 251
Ye, F. 203
Young, A.J. 179
Young, M.J. 67

Zhang, R. 161